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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/712,363	11/13/2000	David Eisenberg	07419-032001 / LA99-566-6	9082

7590 02/25/2003

Gregory P Einhorn
Fish & Richardson PC
Suite 500
4350 La Jolla Village Drive
San Diego, CA 92122

EXAMINER

STRZELECKA, TERESA E

ART UNIT PAPER NUMBER

1637

DATE MAILED: 02/25/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/712,363	Applicant(s) EISENBERG ET AL.	
	Examiner Teresa E Strzelecka	Art Unit 1637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20,22-30 and 34-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20,22-30 and 34-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to an amendment filed on December 13, 2002. Applicants cancelled claims 21 and 31-33, amended claims 1-4, 6, 22-28, 30 and 34 and added new claims 35 and 36. Claims 1-20, 22-30 and 34-36 are pending and will be examined.
2. Rejections from the previous Office action are withdrawn in view of the amendments and the Declaration under 37 C.F.R. 1.132.
3. This Office action is made non-final because of new grounds for rejection.

Inventorship

4. In view of the papers filed December 13, 2002, it has been found that this nonprovisional application, as filed, through error and without deceptive intent, improperly set forth the inventorship, and accordingly, this application has been corrected in compliance with 37 CFR 1.48(a). The inventorship of this application has been changed by addition of the following names: Todd O. Yeates, Matteo Pellegrini and Michael J. Thompson.

The application will be forwarded to the Office of Initial Patent Examination (OIPE) for issuance of a corrected filing receipt, and correction of the file jacket and PTO PALM data to reflect the inventorship as corrected.

Declaration

5. The declaration under 37 CFR 1.132 filed December 13, 2002 is sufficient to overcome the rejection of claims 34, 1-12 and 18-30 based upon the references by Pellegrini et al. (PNAS USA, vol. 96, p. 4285-4288, 1999) and Marcotte et al. (Science, vol. 285, p. 751-753, 1999).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 34, 1-20, 22-30, 35 and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A) Claim 34 is indefinite over the recitation of "... nucleic acid sequence or ... polypeptide sequence comprising the biological property of interest..." (emphasis added). It is not clear what it means for a sequence to "comprise a property of interest". For example, if a property of interest for a protein is being a target of a drug, how does its sequence comprise "being a target for a drug"?

B) Claim 34 is indefinite because of the recitation of "... providing at least one algorithm capable of analyzing a functional relationship between the first protein and second protein selected from the group consisting of a "domain fusion" method, a "phylogenetic profile" method, and a "physiologic linkage" method;" (emphasis added). This reads as if the second protein was selected from the group consisting of the three methods.

C) Claim 34 is indefinite because of the recitation of "... thereby identifying a nucleic acid sequence or polypeptide of a protein that possesses the property of interest". In the preamble we have "... a method of identifying a second nucleic acid sequence or a second polypeptide sequence of a second protein..." (emphasis added).

D) Claim 2 is indefinite because of the recitation of "... the property of interest is a protein...". It is not clear how a "property of interest" for a protein can be a protein.

E) Claim 6 recites the limitation "the microorganism" in line 1. There is insufficient antecedent basis for this limitation in the claim. There is no mention of a microorganism in claim 4, from which claim 6 depends.

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F) Claim 9 is indefinite because it is not clear how the algorithm steps relate to claim 34. In claim 34 a first nucleic acid sequence or a first polypeptide sequence is compared to a plurality of sequences, whereas in claim 9 steps (a) and (b) involve a comparison of lists of proteins from at least two genomes.

G) Claim 11 is indefinite because it is not clear how just computing a probability value threshold determines significance of sequence homology. One would think that the significance would be established by comparing a probability value for a given sequence similarity with the threshold probability.

H) Claim 12 is indefinite because it is not clear how the probability threshold of $1/NM$, where N and M are number of sequences in whole genomes being compared, relates to claim 34, where one sequence is compared to a plurality of other sequences.

I) Claim 19 is indefinite over the recitation of "... algorithm comprises identifies proteins...". It is not clear what the algorithm does.

J) Claim 20 is indefinite over the recitation of "... algorithm comprises identifies proteins...". It is not clear what the algorithm does.

K) Claim 35 is indefinite because it depends on itself.

L) The term " significant sequence similarity " in claim 36 is a relative term which renders the claim indefinite. The term " significant sequence similarity " is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Applicants provided a formula for calculating a probability value threshold on page 13, lines 21-27, but did not provide guidance as to what values of probability are considered "significant" with respect to the threshold.

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K) Claim 24 is indefinite over the recitation of "...the sequences...". Claim 36, from which claim 24 depends, has nucleic acid or polypeptide sequences of first, second and third proteins, therefore it is not clear what type of sequence and of which protein "the sequences" refers to.

L) Claim 28 is indefinite because it is not clear how just computing a probability value threshold determines significance of sequence alignment. One would think that the significance would be established by comparing a probability value for a given sequence similarity with the threshold probability.

M) Claim 29 is indefinite because it is not clear how the probability threshold of $1/NM$, where N and M are number of sequences in whole genomes being compared, relates to claim 36, where two sequences are compared to a third sequence.

8. No references were found teaching or suggesting claims 1-20, 22-30 and 34-36, but they are rejected for reasons given above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa E Strzelecka whose telephone number is (703) 306-5877. The examiner can normally be reached on M-F (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached at (703) 308-1119. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 305-3014 for After Final communications.

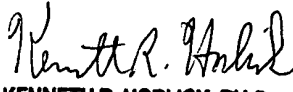
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

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KENNETH R. HORLICK, PH.D
PRIMARY EXAMINER

2/24/03